Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of:	)	
	)	
Joint Parties' Request for FM Digital	)	MB Docket No. 99-325
Power Increase and Associated Technical	)	
Studies	)	

COMMENTS OF EDUCATIONAL MEDIA FOUNDATION

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December 5, 2008

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Educational Media Foundation ("EMF"), by its attorneys and pursuant to Sections 1.415 and 1.419 of the Commission's rules, hereby submits its comments in response to the Commission's Public Notice in the above-captioned proceeding.[1] In the *IBOC Comment Request*, the Commission is seeking comment on the request of 18 broadcasters[2] and 4 broadcast transmission equipment manufacturer, to increase the maximum permissible digital operating power of FM stations from the current level of one percent of the stations' authorized analog power to a maximum of ten percent.[3] The Commission requested that comments also consider technical studies submitted by iBiquity Digital Corporation ("iBiquity") and National Public

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[1] *Comment Sought on Joint Parties Request for FM Digital Power Increase and Associated Technical Studies*, DA 08-2340, *Public Notice*, MM Docket No. 99-325 (October 23, 2008) ("*IBOC Comment Request*").

[2] On December 4, 2008, one of the signatories to the *Joint Parties Request* (defined below), revised its position and requested that the FCC reject an across the board increase in digital power to 10% of the analog carrier due to concerns about interference to analog stations. See *Comments of Minnesota Public Radio*, MM Docket No. 99-325 (December 4, 2008).

[3] Letter from Steve A. Lerman and John W. Bagwell to Ms. Marlene Dortch dated June 10, 2008 ("*Joint Parties Request*").

Radio, Inc. ("NPR").[4] For the reasons set forth herein, EMF urges that the Commission proceed carefully with this proposed power increase, and adopt standards that take into account the likely interference that will occur in individual cases before any digital power increase is permitted.

I. INTRODUCTION

EMF is the licensee of over 200 noncommercial educational FM radio stations throughout the country. It draws approximately 4.3 million weekly listeners to its programming through its unique blend of inspirational music, news and other cultural and educational programming. As an organization largely funded by listener donations, EMF is particularly worried about the potential degradation of its stations' signals that could occur by an across-the-board increase in FM digital operating power. While the proposed power increase would no doubt bring about some benefits to those stations operating in digital, EMF submits that the increase in this optional service, not mandated for any FM station, should not be accomplished through significant degradation in the mandatory analog service on which virtually all current FM listeners rely. According to the studies completed by NPR and cited by the Commission in its *IBOC Comment Request*, with a 10% increase in IBOC transmission power, most stations would gain population served by their IBOC signal allowing them to just about equal their analog indoor and portable service and service exceeding their analog mobile service.[5] This 10 percent digital operating power increase would essentially extend the current digital coverage and allow for greater indoor penetration.[6] But, as detailed herein, in many instances the cost of

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[4] *IBOC Comment Request* at p. 2.

[5] Letter from Michael Riksen to Ms. Marlene H. Dortch dated September 15, 2008 ("*NPR Report*") at p. 6.

[6] *Id.*

that increase in service is great. The Commission initially adopted the a lower maximum limitation on IBOC power due to its concerns about the potential of IBOC interference to adjacent channel analog signals.[7] It should not sacrifice that analog service now, merely because some benefits for the digital service can be obtained. EMF fully appreciates the numerous possibilities of digital audio broadcasting technology, but it must nevertheless consider the interests of its listeners. Thus, EMF submits that any increase in the digital operating power of FM stations should either be evaluated on a case-by-case basis or limited by spacing requirements to avoid a deleterious effect on FM analog signals.

II. AN ACROSS-THE-BOARD INCREASE IN FM DIGITAL POWER WILL CAUSE SUBSTANTIAL INTERFERENCE TO ANALOG SIGNALS

In its *Joint Request*, the Joint Parties requested an increase in the allowable digital operating power of FM radio stations. That request showcases the improved digital performance of test stations operating with increased digital power, and argues that a 10% increase in digital power will not create a meaningful increase in the risk of interference to analog broadcasts.[8] The Joint Parties relied on a technical report prepared by iBiquity in which iBiquity maintains that the vast majority of the analog signals won't be negatively affected by the power increase.[9] iBiquity's research concludes that the negative impact of the digital power increase is limited to areas at or outside of the protected contour of most FM stations.[10] iBiquity would have the

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[7] *Digital Audio Broadcasting Systems and Their Impact on the Terrestrial Radio Broadcast Service*, First Report and Order, 17 FCC Rcd 19990, 20001 (2002).

[8] *Joint Parties Request* at p. 2.

[9] Letter from Robert A. Mazer to Ms. Marlene H. Dortch dated June 10, 2008 ("*iBiquity Report*") at p. 2.

[10] *Id.* at 9.

Commission dismiss the findings of interference that would occur as insignificant. In fact, a significant percentage of the listeners of many stations, including those affiliated with EMF and NPR are virtually adjacent to the station's 60dBu contour, in the areas most likely to be affected by the interference predicted even by iBiquity's service. Similarly, many other specialty stations providing services to minority and other niche audiences, are licensed to communities outside of the center of major markets and reply on service at the edges of their predicted contours, and often beyond those contours, to reach their intended audiences. Often, due to high prices of stations licensed to the central city in a market, these fringe signals are the ones that new entrants can afford to acquire. Jeopardizing this service through the blanket increase in IBOC power can endanger these unique services.

A review of listeners of NPR and of EMF demonstrate these issues. According to NPR's research, 25% of NPR's listeners were outside the protected coverage area with almost half of that number listening in the very next ring of signal strength at the 50dBu.[11] Based on information received from EMF's donors, the attached graphs illustrate the distribution of listeners that support EMF stations.[12] Per the graph in Attachment A, a little over one third of EMF's donors lie outside the 60dBu of its stations with a significant number listening incrementally outside the protected contour. Of even more concern is the fact that, a majority of the donors to EMF listen from just inside the protected contour of EMF stations. Figure 1 in Attachment B shows that 35.4% of the donors to EMF station WJKL(FM) listen between the 60 dBu and 69 dBu contours. Figure 2 in Attachment B show similar results in the case of WKVE(FM), where, 24.7% of the donors are listening between the 60 dBu and 69 dBu – more

[11] NPR Report at 30.

than the 6.5% listening inside the 70dBu contour of the station. Likewise, for KLVJ in Figure 3, the majority of the protected donor population listen between the 60 dBu and 64 dBu contours. Attachment C affords a broader look at all EMF FM radio stations, and it also shows that a majority of the donors that listen within the protected contour, are only incrementally within, and could be equally likely to experience interference from high-powered IBOC signals. Approximately 30% of EMF's total donors listen between the 69dBu and the 60dBu. The scatterplots illustrated in Attachment D Figures 1-3 offer a bird's-eye corroboration of the same premise – donors at the fringe of the protected contour represent a significant economic base for smaller market NCE licensees such as EMF. There is no reason to believe that EMF is unique in this experience.

For stations like those affiliated with NPR and EMF, a considerable percentage of our donors would lose a reliable signal and in turn these donor funded organizations could be economically imperiled. Interference to a substantial amount of EMF's donors would pose a significant financial challenge to the financial base of EMF and would disenfranchise listeners who have come to depend on EMF's unique programming. EMF's listener-supported stations are largely outside of the 'inner city' due to scarcity of urban signals for new entrants, ethnic and minority programmers, and noncommercial broadcasters. Because of the potential for interference at the fringes of the protected analog signals, the digital power increase proposed by the Joint Parties would force NCE licensees like EMF to sacrifice enormous numbers of supporters and deprive these listeners of a quality signal. The years spent building listener support for various EMF stations would be reduced to nothing if any digital power increase isn't

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[12] The data represented in Attachments A-D appropriately excludes FM translator station and

Footnote continued on next page

carefully tailored to consider the costs and benefits of implementation in a particular area. For a number of EMF stations, the effects could be devastating and could force these stations off the air.

The findings submitted by NPR corroborate EMF's concerns about the effect of a blanket increase in digital power for FM radio stations. NPR's report illustrates that in a worst case scenario, a wholesale increase in the digital operating power of FM broadcast stations to 10% of their analog power would result in mobile analog interference to an average of 26% of the protected coverage area of the sample stations. The study shows that there would be losses of 30% of analog coverage for almost half of the sample stations and interference to more than 50% of the protected coverage area for approximately 18% of the sample stations.[13] Surely, it cannot be the intent of the Commission to tradeoff long-standing analog service for the as yet unproven and totally optional digital service?

The FCC's commitment to listeners that have a legitimate expectation of service has been unwavering and the instant circumstance requires nothing less. In many cases, the FCC has demonstrated its reluctance to remove service from listeners who currently rely on that service. For instance, in its proceedings that addressed modification of a station's community of license, the Commission remained steadfast in refusing to allow FM broadcasters to remove the sole local service in a community in favor of first local service to another community.[14] As affirmed

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Internet listeners.

[13] *Id.* at 5.

[14] *See Amendment of the Commission Rules Regarding Modification of FM and TV Authorizations to Specify a New Community of License*, 5 FCC Rcd 7094, 7097 (1990), affirmed by *In the Matter of Revision of Procedures Governing Amendments to FM Table*

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by the Commission, the public has a legitimate expectation that existing service will continue and this expectation must be weighed against alternative service benefits.[15] The Commission considers protection of this expectation a logical outgrowth of its mandate under Section 307(b) of the Communications Act of 1934.[16] "Removal of service is warranted only if there are sufficient public interest factors to offset the expectation of continued service."[17] The increase in FM digital power is analogous – the FCC should not permit the promise of a new service to one group to occur at the expense of the loss of service by another group. The Commission must remain equally as vigilant about protecting the service currently enjoyed by analog listeners.

III. A TAILORED APPROACH IS NECESSARY TO BALANCE THE NEGATIVE AND POSITIVE EFFECTS OF A 10% DIGITAL POWER INCREASE

In its report, NPR suggests that the Commission abandon the 'magic bullet' approach to expanding digital radio coverage throughout the country.[18] EMF agrees - any potential benefits derived from an increase in digital power of a specific station must be balanced against the potential for interference to the protected contours of specific neighboring stations. iBiquity's and NPR's research show that there are several factors to be weighed to determine whether a particular increase is in the public interest. The effect of a digital power increase to a neighboring analog station can vary based on spacing, station class, terrain, type of receiver,

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of Allotments and Changes of Community of License in the Radio Broadcast Services, 21 FCC Rcd 14212, 14227-14230 (2006).

[15] *Id.*

[16] 5 FCC Rcd at 7096.

[17] *Id.* at 7097.

[18] *NPR Report* at 41.

format etc. In iBiquity's research, the disparities in analog compatibility discovered across station class, spacing and music versus talk-radio format[19] indicate that any encouraging findings should not be generalized to support an en mass digital power increase. As NPR stated in its technical report, "[t]he impact of elevated 10% power levels is subject to huge variability in consequences. One station may have a projected potential dramatic decline in analog coverage ...while another may not."[20] With such major variations in consequences, the Commission cannot be justified in applying a generalized approach.

NPR's findings are convincing and EMF believes that the Commission must take a measured approach to an increase in the digital power of FM stations. EMF is interested in the alternatives suggested by NPR that would provide some protection to existing listeners from disenfranchisement without completely stifling the advancement of digital audio broadcasting. EMF intends to review NPR's comments filed in this docket to further determine whether NPR's suggestions are remedial to EMF's concerns. But EMF wants to be firmly on the record that an across the board digital power increase is not in the public interest, and that the Commission must adopt a measured approach that protects current analog service wherever possible.

IV. CONCLUSION

Digital radio offers many benefits to broadcasters and listeners, whether it be signal quality or multiple streams of programming. While EMF welcomes the growth of technological innovation in the broadcasting industry, cautious implementation is necessary to ensure the public interest is not undermined in the process. A 10% increase in the allowable FM digital

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[19] *iBiquity Report* at 7-16.

[20] *NPR Report* at 42.

operating power is highly likely to result in increased interference to the listeners within the protected contours of many stations, and would seriously affect the many stations that also rely on existing, real service that is provided to listeners outside of a station's protected contour. This could be a substantial economic loss to EMF and similarly situated broadcasters, and could affect their ability to provide unique, quality programming that serves the public interest. Accordingly, EMF respectfully requests that the Commission reject the proposal by the Joint Parties and instead evaluate each request for increase of a station's digital power after balancing the potential deleterious effect to surrounding analog stations with the benefits associated with such increased power.

Respectfully submitted,

EDUCATIONAL MEDIA FOUNDATION

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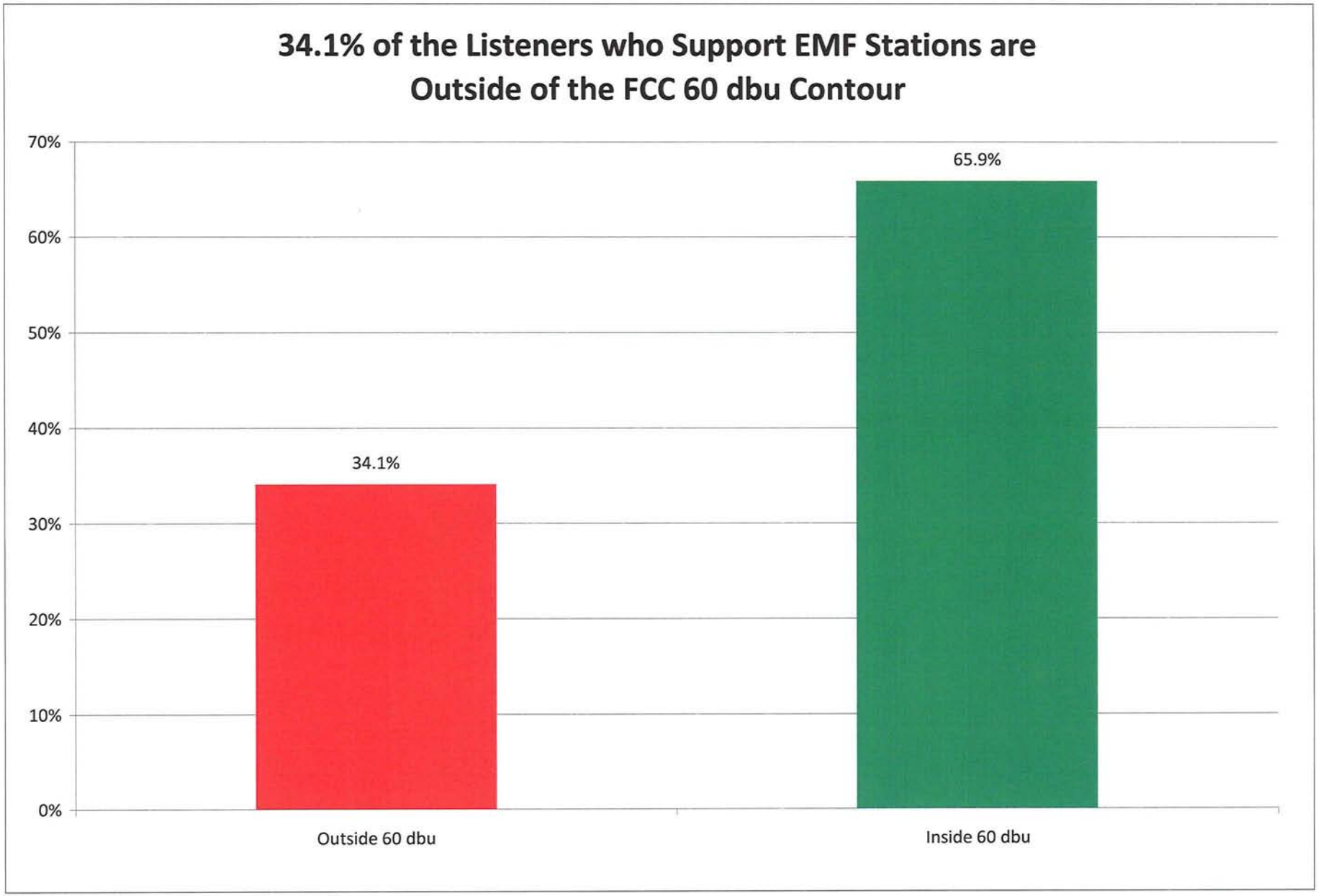
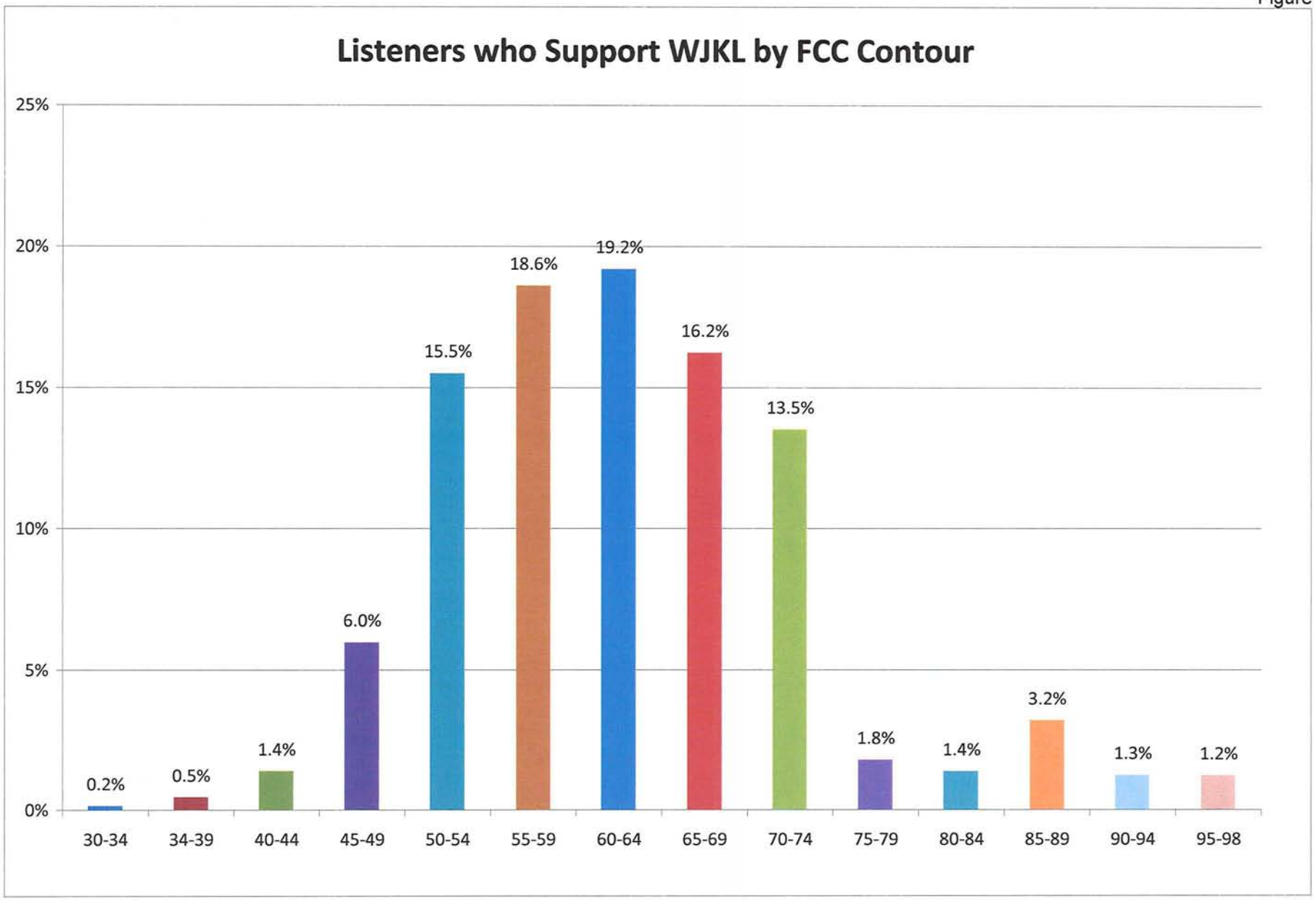
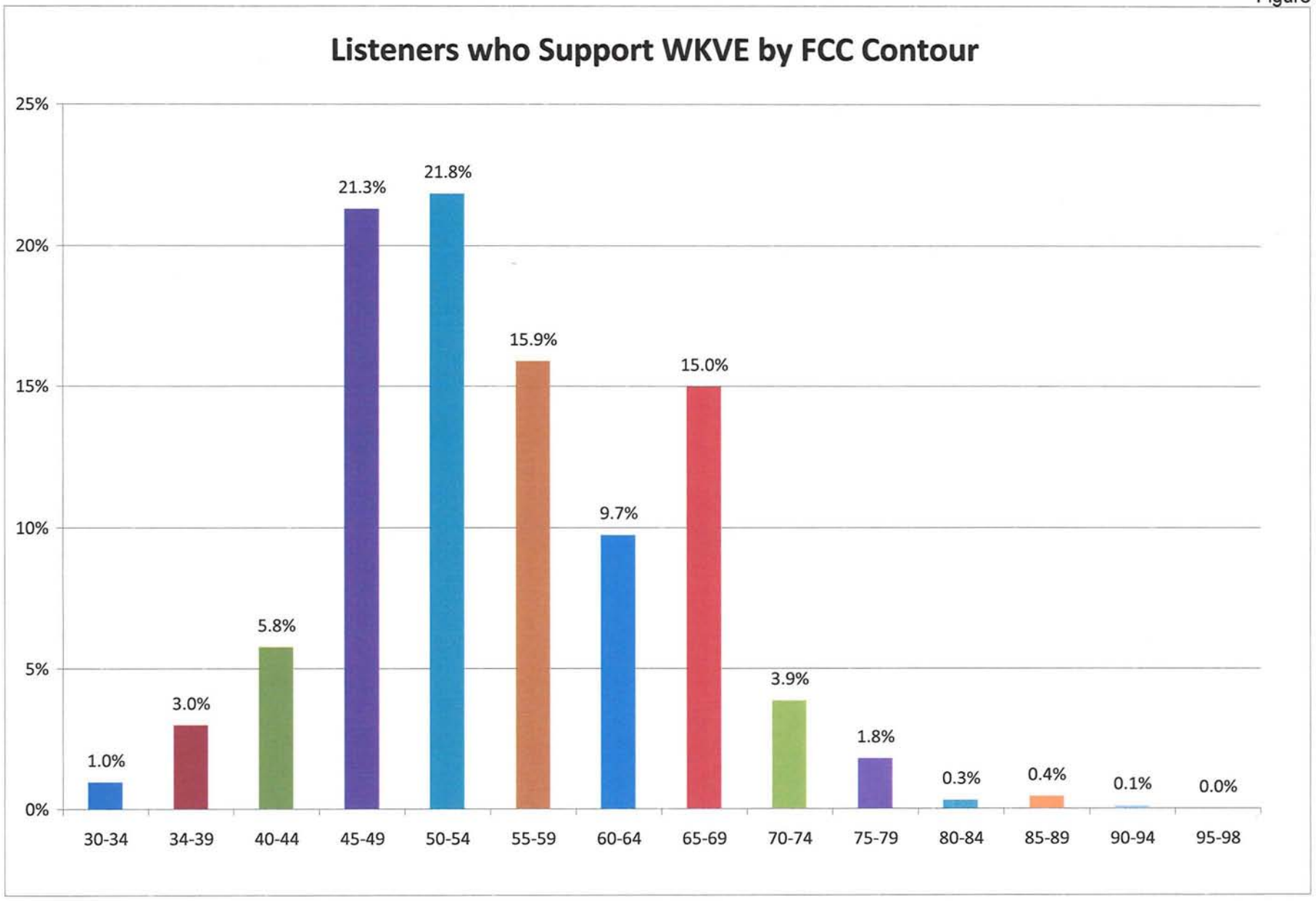
Dated: December 5, 2008

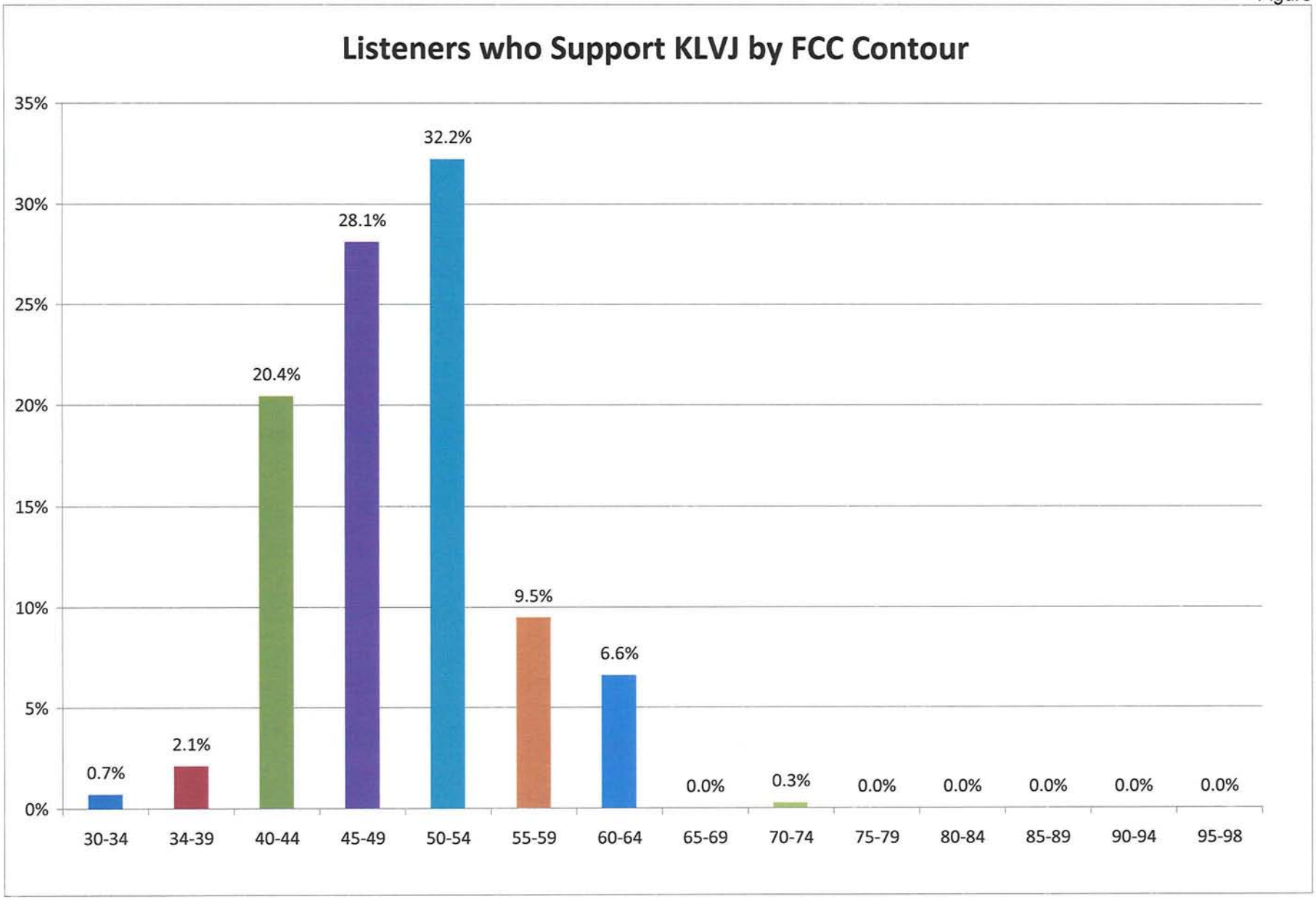
ATTACHMENT A


34.1% of the Listeners who Support EMF Stations are Outside of the FCC 60 dbu Contour
70%
60%
50%
40%
30%
20%
10%
0%
34.1%
65.9%
Outside 60 dbu
Inside 60 dbu

ATTACHMENT B


Listeners who Support WJKL by FCC Contour
25%
20%
15%
10%
5%
0%
0.2%
0.5%
1.4%
6.0%
15.5%
18.6%
19.2%
16.2%
13.5%
1.8%
1.4%
3.2%
1.3%
1.2%
30-34
34-39
40-44
45-49
50-54
55-59
60-64
65-69
70-74
75-79
80-84
85-89
90-94
95-98


Listeners who Support WKVE by FCC Contour
25%
20%
15%
10%
5%
0%
1.0%
3.0%
5.8%
21.3%
21.8%
15.9%
9.7%
15.0%
3.9%
1.8%
0.3%
0.4%
0.1%
0.0%
30-34
34-39
40-44
45-49
50-54
55-59
60-64
65-69
70-74
75-79
80-84
85-89
90-94
95-98


Listeners who Support KLVJ by FCC Contour
35%
30%
25%
20%
15%
10%
5%
0%
0.7%
2.1%
20.4%
28.1%
32.2%
9.5%
6.6%
0.0%
0.3%
0.0%
0.0%
0.0%
0.0%
0.0%
30-34
34-39
40-44
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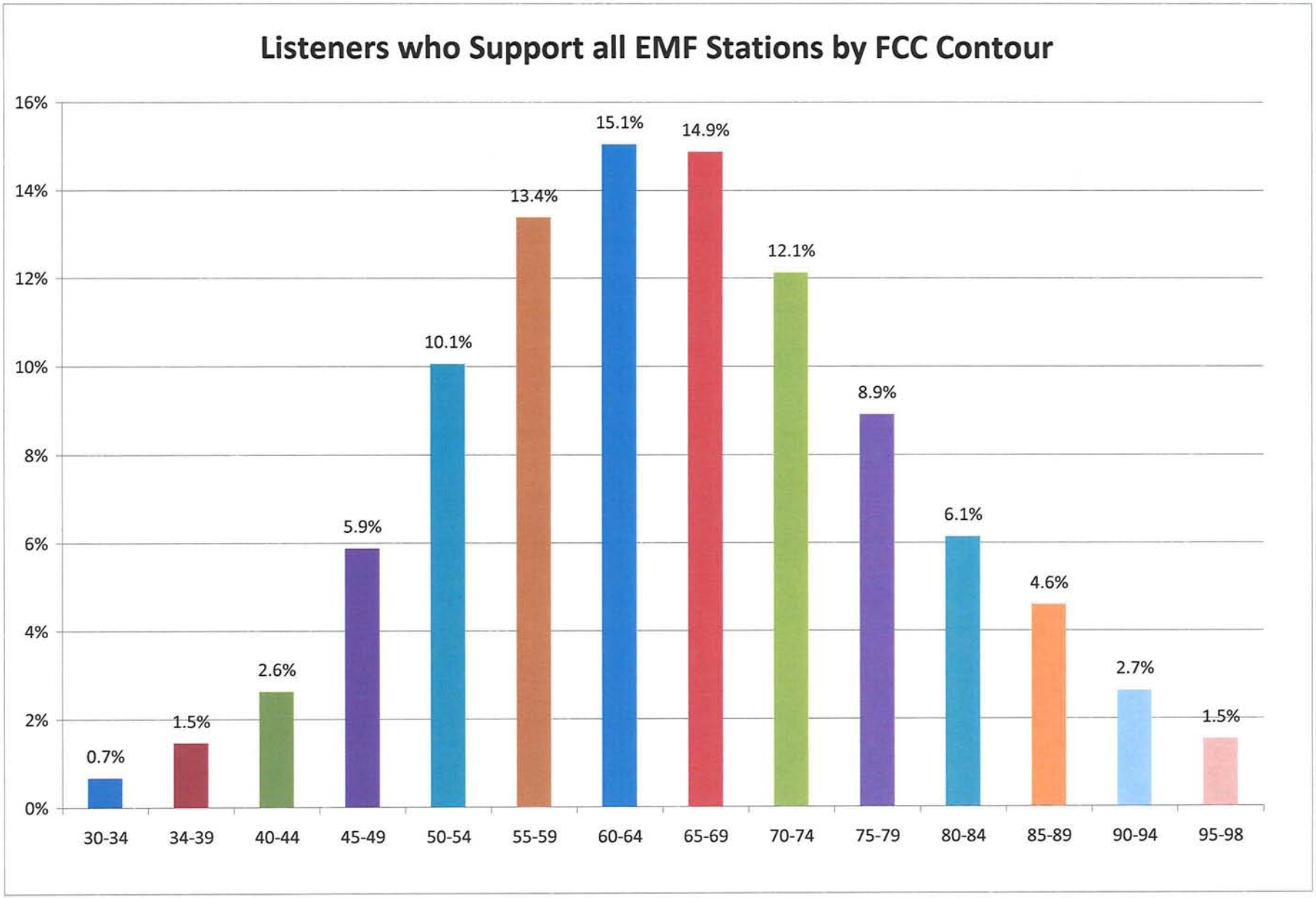
75-79
80-84
85-89
90-94
95-98

ATTACHMENT C


Listeners who Support all EMF Stations by FCC Contour
16%
14%
12%
10%
8%
6%
4%
2%
0%
0.7%
1.5%
2.6%
5.9%
10.1%
13.4%
15.1%
14.9%
12.1%
8.9%
6.1%
4.6%
2.7%
1.5%
30-34
34-39
40-44
45-49
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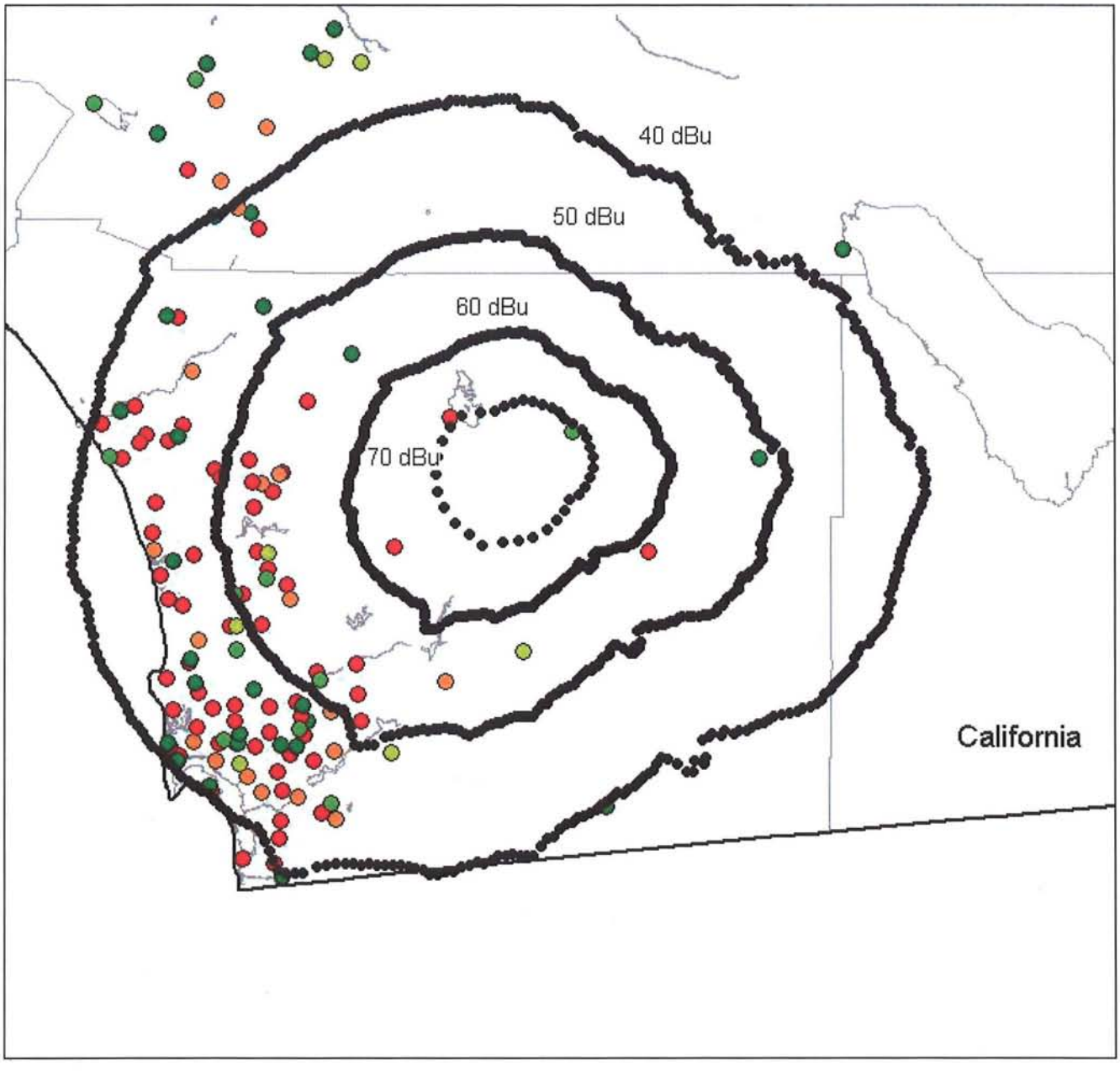
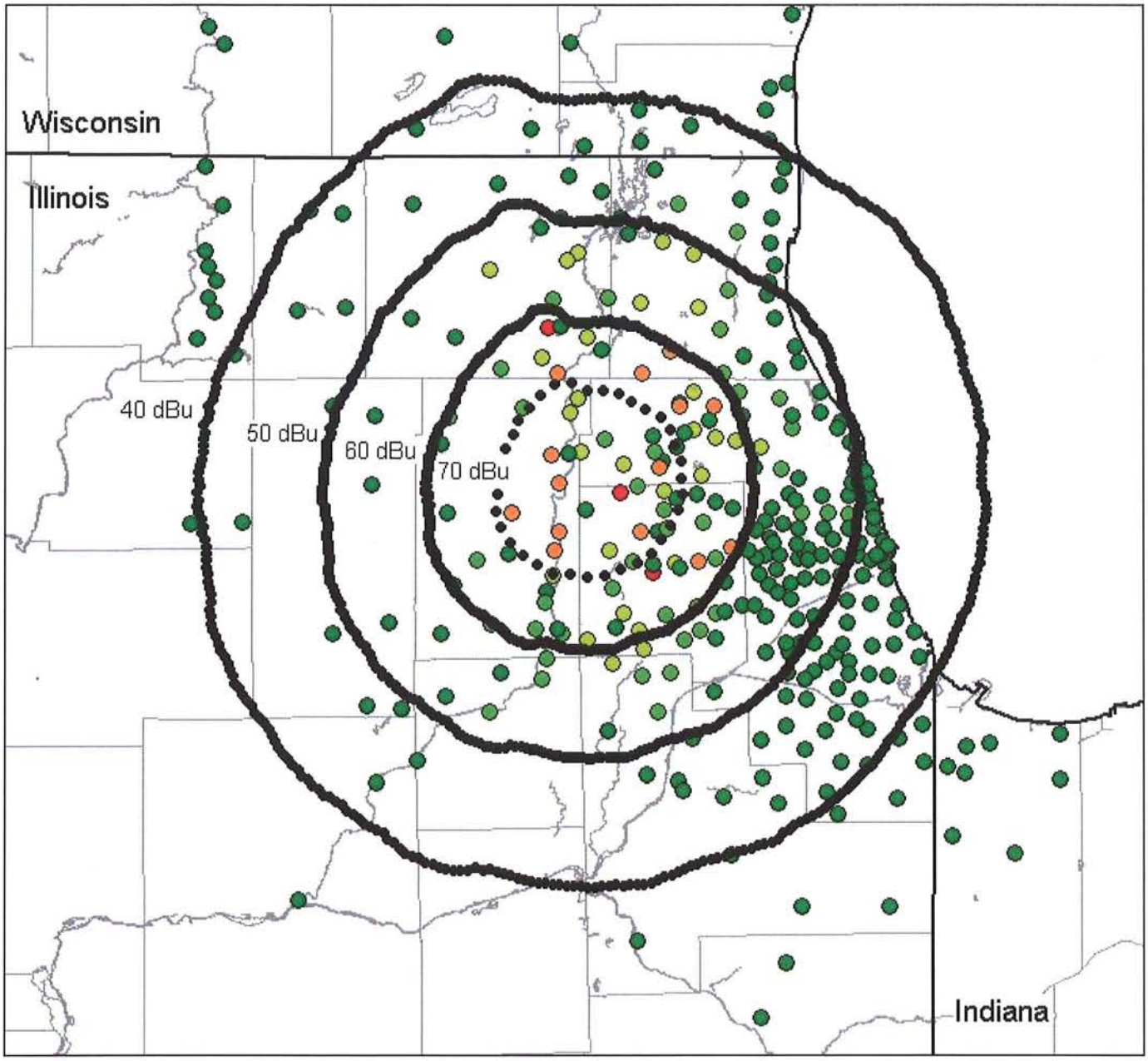
60-64
65-69
70-74
75-79
80-84
85-89
90-94
95-98

ATTACHMENT D



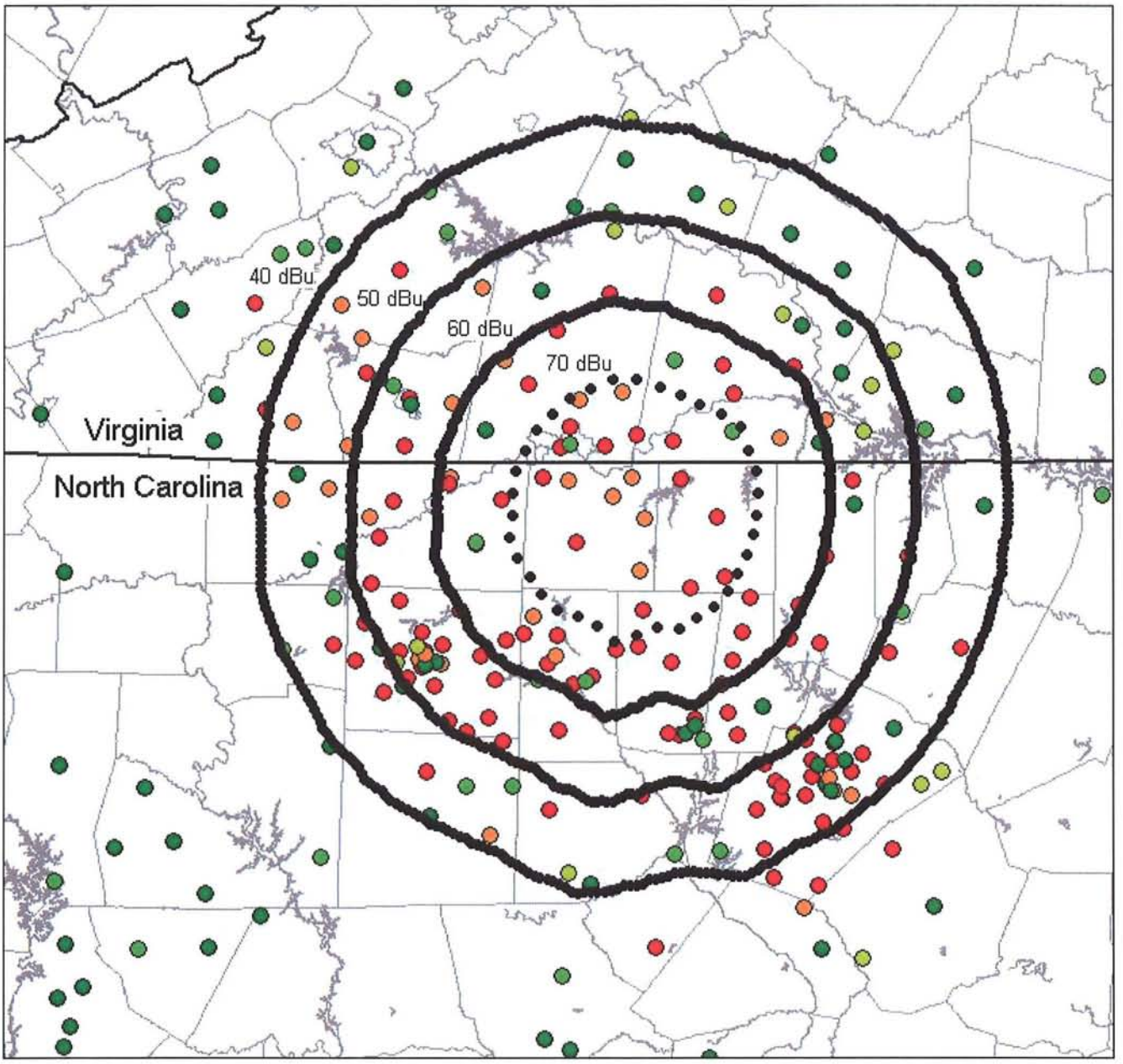
KLVJ San Diego, CA
Donors per Zip

- 7 or more
- 4 to 7
- 3 to 4
- 2 to 3
- 1 to 2



WJKL Chicago, IL
Donors per Zip

- 191 or more
- 124 to 191
- 77 to 124
- 35 to 77
- 1 to 35



WKVE Semora, NC
Donors per Zip

- 7 or more
- 4 to 7
- 3 to 4
- 2 to 3
- 1 to 2